

WHAT IS CLAIMED IS

1. A high-frequency coil device, characterized by comprising:

a dielectric substrate; and

a coil formed of a conductive layer embedded in a predetermined coil pattern in the surface of said dielectric substrate, the bottom surface and side surface of said coil being covered by said dielectric substrate.

2. The high-frequency coil device as claimed in claim 1, wherein a recess is formed in the surface of said dielectric substrate, and said coil is designed as an aerial wire separated from said dielectric substrate in said recess.

3. The high-frequency coil device as claimed in claim 1, wherein said dielectric substrate is a resin layer.

4. The high-frequency coil device as claimed in claim 2, wherein said resin layer is a polyimide layer or a liquid crystal polymer layer.

5. The high-frequency coil device as claimed in claim 1, wherein said conductive layer is a plating layer.

6. The high-frequency coil device as claimed in claim 4, wherein said plating layer has a multi-layered structure in which a nickel plating layer and a copper plating layer are laminated.

7. A method of manufacturing a high-frequency coil device comprising:

a first step of forming a resist pattern constituting a predetermined coil pattern on the surface of a base metal plate;

a second step of conducting a plating treatment on an exposed portion of the surface of said base metal plate by using said resist pattern as a mask to form a coil of a plating layer having the predetermined coil pattern;

a third step of forming a resin layer on the surface of said base metal plate containing said coil after said resist pattern is removed, and coating the surface and side surface of said coil by said resin layer; and

a fourth step of etching said base metal plate from the back surface side thereof to remove said base metal plate and expose the back surfaces of said coil and said resin layer.

8. The high-frequency coil device manufacturing method as claimed in claim 7, wherein in said second step, when the plating treatment is conducted on the exposed portion of the surface of said base metal plate by using said resist pattern as the mask, a nickel plating treatment and a copper plating treatment are successively conducted to thereby form said coil of said plating layer having a multi-layered structure in which said nickel plating layer and said copper plating layer are laminated.

9. The high-frequency coil device manufacturing method as claimed in claim 7, wherein in said third step, when said resin layer is formed on the surface of said base metal plate containing

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Table 1. *Continued*

	Fig. 1	Fig. 2	Fig. 3	Fig. 4	Fig. 5	Fig. 6	Fig. 7	Fig. 8	Fig. 9	Fig. 10	Fig. 11	Fig. 12	Fig. 13	Fig. 14	Fig. 15	Fig. 16	Fig. 17	Fig. 18	Fig. 19	Fig. 20	Fig. 21	Fig. 22	Fig. 23	Fig. 24	Fig. 25	Fig. 26	Fig. 27	Fig. 28	Fig. 29	Fig. 30	Fig. 31	Fig. 32	Fig. 33	Fig. 34	Fig. 35	Fig. 36	Fig. 37	Fig. 38	Fig. 39	Fig. 40	Fig. 41	Fig. 42	Fig. 43	Fig. 44	Fig. 45	Fig. 46	Fig. 47	Fig. 48	Fig. 49	Fig. 50	Fig. 51	Fig. 52	Fig. 53	Fig. 54	Fig. 55	Fig. 56	Fig. 57	Fig. 58	Fig. 59	Fig. 60	Fig. 61	Fig. 62	Fig. 63	Fig. 64	Fig. 65	Fig. 66	Fig. 67	Fig. 68	Fig. 69	Fig. 70	Fig. 71	Fig. 72	Fig. 73	Fig. 74	Fig. 75	Fig. 76	Fig. 77	Fig. 78	Fig. 79	Fig. 80	Fig. 81	Fig. 82	Fig. 83	Fig. 84	Fig. 85	Fig. 86	Fig. 87	Fig. 88	Fig. 89	Fig. 90	Fig. 91	Fig. 92	Fig. 93	Fig. 94	Fig. 95	Fig. 96	Fig. 97	Fig. 98	Fig. 99	Fig. 100	Fig. 101	Fig. 102	Fig. 103	Fig. 104	Fig. 105	Fig. 106	Fig. 107	Fig. 108	Fig. 109	Fig. 110	Fig. 111	Fig. 112	Fig. 113	Fig. 114	Fig. 115	Fig. 116	Fig. 117	Fig. 118	Fig. 119	Fig. 120	Fig. 121	Fig. 122	Fig. 123	Fig. 124	Fig. 125	Fig. 126	Fig. 127	Fig. 128	Fig. 129	Fig. 130	Fig. 131	Fig. 132	Fig. 133	Fig. 134	Fig. 135	Fig. 136	Fig. 137	Fig. 138	Fig. 139	Fig. 140	Fig. 141	Fig. 142	Fig. 143	Fig. 144	Fig. 145	Fig. 146	Fig. 147	Fig. 148	Fig. 149	Fig. 150	Fig. 151	Fig. 152	Fig. 153	Fig. 154	Fig. 155	Fig. 156	Fig. 157	Fig. 158	Fig. 159	Fig. 160	Fig. 161	Fig. 162	Fig. 163	Fig. 164	Fig. 165	Fig. 166	Fig. 167	Fig. 168	Fig. 169	Fig. 170	Fig. 171	Fig. 172	Fig. 173	Fig. 174	Fig. 175	Fig. 176	Fig. 177	Fig. 178	Fig. 179	Fig. 180	Fig. 181	Fig. 182	Fig. 183	Fig. 184	Fig. 185	Fig. 186	Fig. 187	Fig. 188	Fig. 189	Fig. 190	Fig. 191	Fig. 192	Fig. 193	Fig. 194	Fig. 195	Fig. 196	Fig. 197	Fig. 198	Fig. 199	Fig. 200	Fig. 201	Fig. 202	Fig. 203	Fig. 204	Fig. 205	Fig. 206	Fig. 207	Fig. 208	Fig. 209	Fig. 210	Fig. 211	Fig. 212	Fig. 213	Fig. 214	Fig. 215	Fig. 216	Fig. 217	Fig. 218	Fig. 219	Fig. 220	Fig. 221	Fig. 222	Fig. 223	Fig. 224	Fig. 225	Fig. 226	Fig. 227	Fig. 228	Fig. 229	Fig. 230	Fig. 231	Fig. 232	Fig. 233	Fig. 234	Fig. 235	Fig. 236	Fig. 237	Fig. 238	Fig. 239	Fig. 240	Fig. 241	Fig. 242	Fig. 243	Fig. 244	Fig. 245	Fig. 246	Fig. 247	Fig. 248	Fig. 249	Fig. 250	Fig. 251	Fig. 252	Fig. 253	Fig. 254	Fig. 255	Fig. 256	Fig. 257	Fig. 258	Fig. 259	Fig. 260	Fig. 261	Fig. 262	Fig. 263	Fig. 264	Fig. 265	Fig. 266	Fig. 267	Fig. 268	Fig. 269	Fig. 270	Fig. 271	Fig. 272	Fig. 273	Fig. 274	Fig. 275	Fig. 276	Fig. 277	Fig. 278	Fig. 279	Fig. 280	Fig. 281	Fig. 282	Fig. 283	Fig. 284	Fig. 285	Fig. 286	Fig. 287	Fig. 288	Fig. 289	Fig. 290	Fig. 291	Fig. 292	Fig. 293	Fig. 294	Fig. 295	Fig. 296	Fig. 297	Fig. 298	Fig. 299	Fig. 300	Fig. 301	Fig. 302	Fig. 303	Fig. 304	Fig. 305	Fig. 306	Fig. 307	Fig. 308	Fig. 309	Fig. 310	Fig. 311	Fig. 312	Fig. 313	Fig. 314	Fig. 315	Fig. 316	Fig. 317	Fig. 318	Fig. 319	Fig. 320	Fig. 321	Fig. 322	Fig. 323	Fig. 324	Fig. 325	Fig. 326	Fig. 327	Fig. 328	Fig. 329	Fig. 330	Fig. 331	Fig. 332	Fig. 333	Fig. 334	Fig. 335	Fig. 336	Fig. 337	Fig. 338	Fig. 339	Fig. 340	Fig. 341	Fig. 342	Fig. 343	Fig. 344	Fig. 345	Fig. 346	Fig. 347	Fig. 348	Fig. 349	Fig. 350	Fig. 351	Fig. 352	Fig. 353	Fig. 354	Fig. 355	Fig. 356	Fig. 357	Fig. 358	Fig. 359	Fig. 360	Fig. 361	Fig. 362	Fig. 363	Fig. 364	Fig. 365	Fig. 366	Fig. 367	Fig. 368	Fig. 369	Fig. 370	Fig. 371	Fig. 372	Fig. 373	Fig. 374	Fig. 375	Fig. 376	Fig. 377	Fig. 378	Fig. 379	Fig. 380</
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